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Impact of Cognitive Style "Category Width" on the use of Social and Expressive Factors in Politeness Speech Acts: Text Mining Application

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Abstract

Nowadays, spontaneity, success and coherence of intercultural communication (especially politeness communication) are studied from the point of view of different linguistic theories. However, not enough attention is always paid to cognitive characteristics of the interlocutor. These characteristics as well as context and social specifics of communication influence communication behaviour in foreign language utterance. The aim of our paper is to examine the relationship between cognitive style 'category width' and social and expressive factors in politeness speech acts formulated in requests in mother tongue (Slovak) and foreign language (English, Spanish and German).

Keywords: 'Category width' Cognitive Style, Factors of Politeness in Speech Acts of Requests, Mother Tongue (MT), Foreign Language (FL);

1. Introduction

Each interlocutor creates his/her own unique speech acts (Cohen, 1996; Searle, 1979) and within them he/she uses factors of politeness in various combinations and meanings. The using of this factors affects not only the interlocutor`s foreign language proficiency (a level of foreign language acquisition) but also cognitive traits of his/her personality. Therefore we believe that it is important to examine the relationship between the cognitive traits (in our case "Category width" cognitive style) and the use of factors of politeness speech acts, which the interlocutors use in the production of their spoken or written form of requests in MT as well as in FL.

The graphic form of the human communication is a written text, mostly unstructured, providing various kinds of information between the sender and the receiver, suitable mainly for a particular research or text mining.

Text mining includes several research areas. Similarly to KDD (Knowledge Discovery in Databases) statistical methods and methods of machine learning are tools for data analysis (Škorpil & Šťastný, 2006; Houškova-Beranková & Houška, 2011) in text mining.

In our paper, we focus on an unstructured text - a request, where we try to find the similarities and differences in the use of chosen social and expressive features in MT (SK) and FL (EN, ES and DE) by broad categorizers.

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This paper refers to research results focusing on the use of social and expressive factors of politeness speech acts formulated in requests by narrow categorizers, and was partially presented on the 3rd World Conference on Psychology, Counselling and Guidance.

2. 'Category width' cognitive style

Category width is a cognitive variable that reveals individual differences in categorization strategy. Interlocutors differ in term of width of their judgments of category width. The broad categorizers are tolerant of uncertainty. They do not have problem to adopt new information or technologies without knowing all positives or negatives of that. On the other hand, the narrow categorizers reject or are not willing to adopt new information because of the unknown risk associated with it.

We focused on the dimension of category width cognitive style because in understanding spoken or written communication we suppose a global/overall and detailed understanding. This dimension relates to individual differences in category width that are conditioned by differences in strategies of processing information from the utterance. The category 'broad categorizer' represents strategies of global understanding of text or utterance. Contrary, the category 'narrow categorizer' represents a detailed understanding of text or utterance.

If we take into consideration the cognitive style category width and the individual strategies of information processing, we can say that in the category broad categorizer:

- acquiring information concerns a global, holistic processing of utterance, a global understanding of text for an orientation and summary, that means information ordering and combining,
- interpreting a text concerns understanding the relationships, depiction of a main idea, integrating several parts of utterance and the subsequent assessment of a main idea (Koršáková & Tomengová, 2004; Jurčová & Sarmány-Schuller, 1993; Gavora & Šrajerová, 2009).

3. Information extraction from the requests

The gist of information extraction is the identification of specific information, in our case the expressive and social features. This identification helps us in computational modelling and understanding of the culture-specific features of politeness in speech acts of requesting not only in interlanguage (English) but also in MT (Slovak).

Methods based on rules and statistical methods are used to identify specific information. We chose them because they are appropriate for specific tasks such as extraction of social and expressive factors. We used classification of politeness factors in line with Trosborg (1995) and Díaz-Pérez (2003) and we defined the following 8 factors:

F1 Attention getter - a combination of form expressing the social role.
F2 Speaker's perspective (e. g.: ... can I borrow..., can I copy..., can I use your mobile phone, etc.).
F3 Listener's perspective (e.g.: could you lend me (Vous form)..., could you hand me (Tu form), etc.).
F4 Politeness features (e.g.: thank you, please – immediately before or after the request core).
F5 Pre-sequences
F6 Post-sequences/supporting details
F7 Mitigating devices (e.g.: Sorry for interrupting, I remembered that).
F8 Minimizers (I would like to ask you for a small favour, etc.).

In this paper we focus on analysis of social and expressive factors of speech acts formulated in requests in foreign language and mother tongue based on 'category width' cognitive style – a broad categorizer.

4. Research

The aim of our research is to examine the relationship between cognitive style 'category width' and social and expressive factors in politeness speech acts formulated in requests in MT (SK) and FL (EN, ES and DE).

To gather data, we used an estimation scale C-W and following five scenarios according to Díaz-Pérez (2003):

S1 You did not attend the last lecture and you are asking your peer to lend you his notes.

S2 You are in the professor's office and you need to make an urgent call. You are in a situation where no other phone can be used so you ask the professor to use the one in his office.

S3 You are preparing a presentation for a key subject and you've just learned there is a new professor at the department specializing in your topic. You don't know him but you decide to pay him a visit and ask him to read the summary of your work and recommend you some literature.

S4 You are requesting a book in the university library. The book is not available because a student borrowed it earlier. You don't know him but you manage to find him and ask him to lend you the book to copy some chapters.

S5 You are in the university library. You want to take a book off the shelf, but you cannot reach so high. You ask your mate, who is taller than you, to hand you the book.

5. Results

Based on the results of Cochran Q test (Fig. 1-5), the zero hypotheses, claiming that *there is a statistically significant difference in the incidence of social and expressive factors in examined situations in a foreign language as well as in the mother tongue*, are rejected at the 1% significance level.

Kendall's coefficient of concordance represents the degree of concordance in the incidence of factors of politeness in examined situations. The values of coefficients (Fig. 1-5) are from 0.105 to 0.513, while 1 means a perfect concordance and 0 represents discordance (Munk & Drlík, 2011). Low values of coefficients confirm Q test results. The highest concordance in the incidence of politeness factors was shown in S5, the lowest in S2 and S4.

Broad categorizers used factors F2 and F4 the most and factors F3 and F7 the least, in MT as well as in FL. They used almost the same factors in Slovak - their MT (0.389) as in FL - EN, ES and DE (0.272) in S1 (Fig.1).

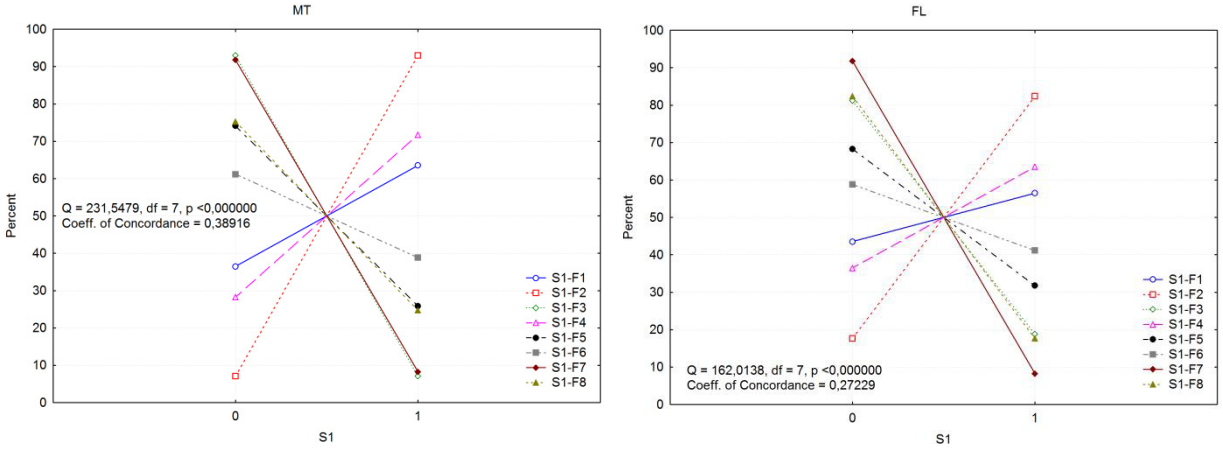

Figure 1. Interaction plot for Situation 1: a) mother tongue (MT), b) foreign language (FL)

In S2 (Fig. 2) broad categorizers used factors F1 and F6 the most in MT, and factors F8 and F7 the least. In FL, the factors F8 and F2 were used the least and factors F1 and F3 the most. The graphical comparison of the incidence of factors in S2 shows that students used various factors of requests for the particular languages (0.105; 0.149).

Broad categorizers used the most factors F1, F2 and F5 and factors F8, F3 and F7 the least in MT in S3 (Fig. 3). Similarly, the same factors were used in FL the most and the least.

In S4 (Fig. 4), broad categorizers used in MT factors F7 and F3 the least, and factors F1 and F5 the most. In FL, the order of the most used factors was the same as in MT.

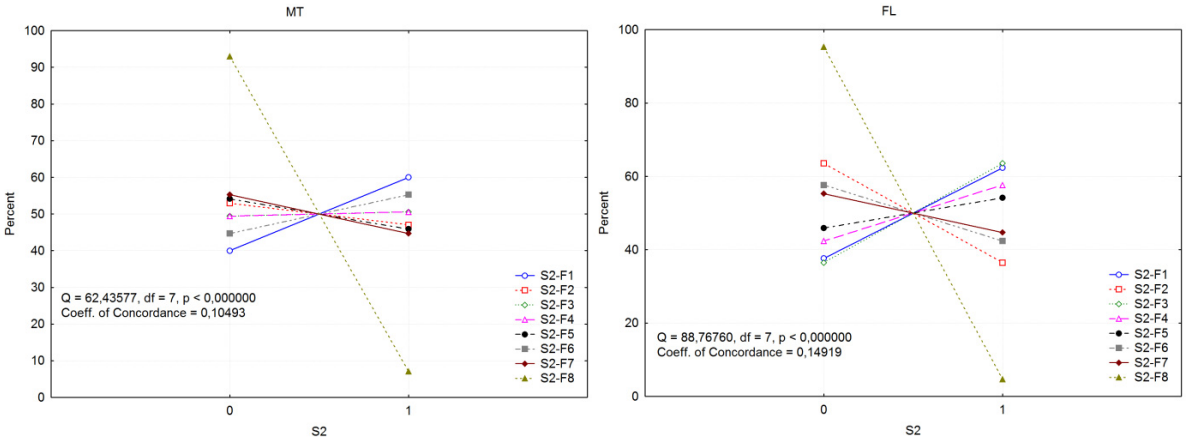

Figure 2. Interaction plot for Situation 2: a) mother tongue (MT), b) foreign language (FL)

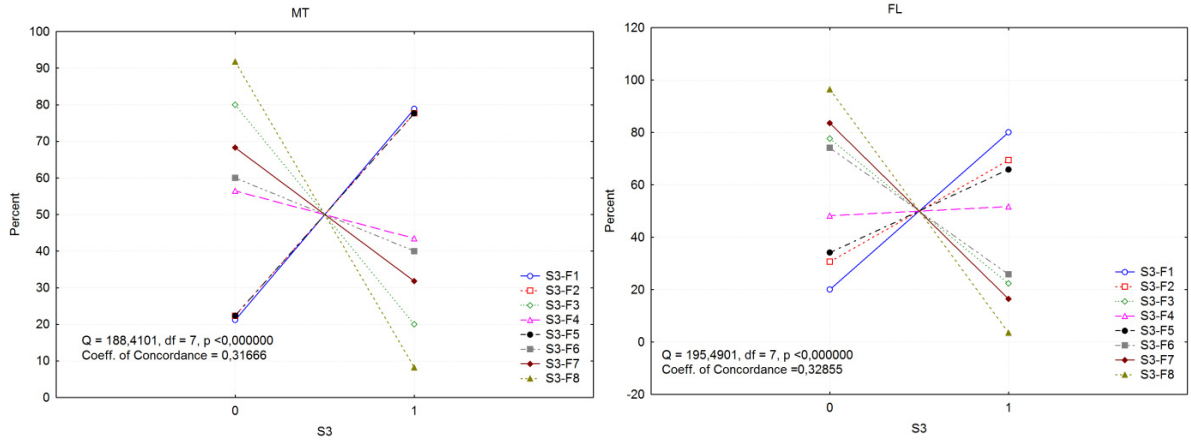

Figure 3. Interaction plot for Situation 3: a) mother tongue (MT), b) foreign language (FL)

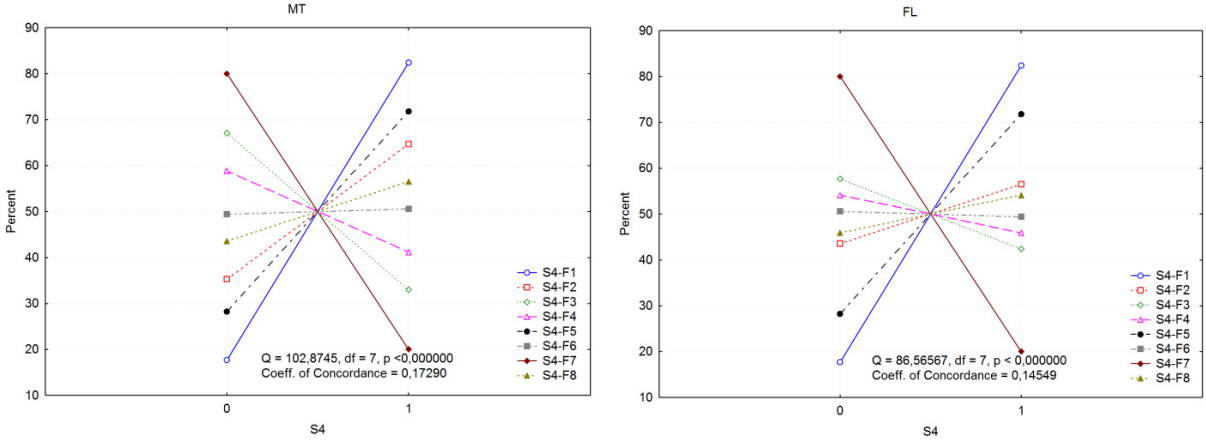

Figure 4. Interaction plot for Situation 4: a) mother tongue (MT), b) foreign language (FL)

Last Situation (Fig. 5), broad categorizers used factors F3 and F8 the least, and, on the contrary, factors F2 and F4 the most in MT. In FL, the least used were factors F8 and F3, the most used were F2, F4 and F1. A high concordance can be also found here in the use of chosen politeness factors in MT (0.513), as well as in FL (0.457).

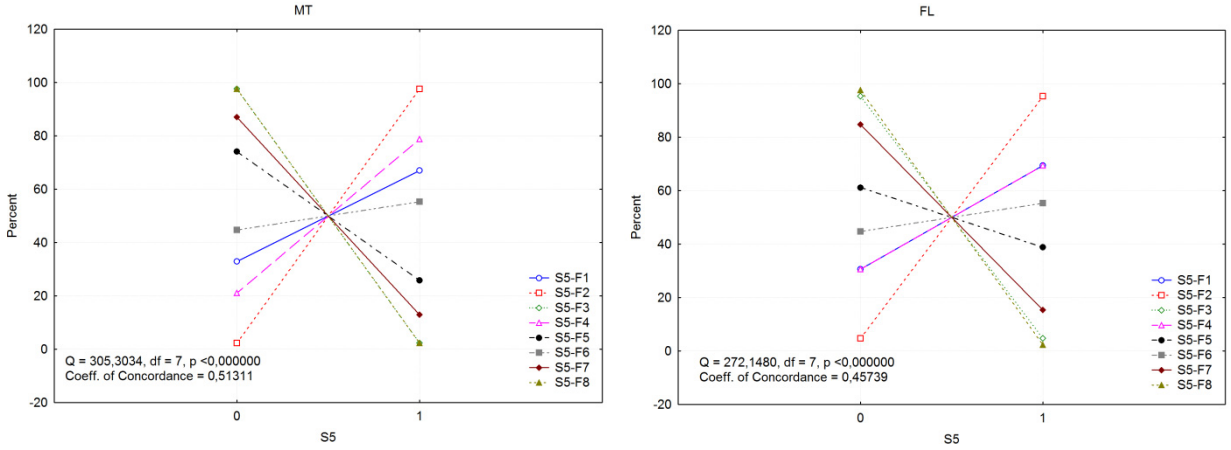

Figure 5. Interaction plot for Situation 5: a) mother tongue (MT), b) foreign language (FL)

6. Conclusion

The summary of research finding has shown that broad categorizers used the most *Attention getter*, *Politeness features*, *Pre-sequences* and *Speaker`s perspective* in mother tongue as well as in foreign language in all situations except S2. There were used *Attention getter*, *Post-sequences/supporting details* (only in MT) and *Listener's perspective* the most in both groups (MT and FL). Contrary, they used *Minimizers* the least in S2 and S3 which present social dominance and in S5 depicting social distance. Similarly, they used least *Mitigating devices* in both groups (MT and FL) in S4. The same result was achieved by Kendall's coefficient of concordance of the incidence of social and expressive factors that was the lowest particularly in S2, S3 and S4.

The interesting finding is that broad categorizers use the same social and expressive factors in MT as in FL. It seems that broad categorization is a strategy for processing information when formulating requests depends on social distance in FL and in MT rather on social power, which could have an effect on the choice of social/expressive factors of categorization width.

Acknowledgements

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